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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,766	12/12/2003	David Chien	PP-20001.002	9349
27476 7590 07/23/2007 NOVARTIS VACCINES AND DIAGNOSTICS INC. CORPORATE INTELLECTUAL PROPERTY R338 P.O. BOX 8097 Emeryville, CA 94662-8097			EXAMINER POHNERT, STEVEN C	
			ART UNIT 1634	PAPER NUMBER
			MAIL DATE 07/23/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/733,766	Applicant(s) CHIEN ET AL.	
	Examiner Steven C. Pohnert	Art Unit 1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 10-18 and 20-34 is/are pending in the application.
- 4a) Of the above claim(s) 20-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 10-18 and 32-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the papers filed on 5/8/2007. All arguments have been thoroughly reviewed but are not found persuasive for the reasons presented below.

The objection to the specification has been withdrawn to the amendment to paragraph [0051] to delete reference to FIG 14.

Claims 6-9 have been canceled.

Claims 32-34 are newly amended and are rejected under Muir et al.

The objection to claim 19 has been withdrawn as claim 19 has been canceled.

The double patenting rejection is withdrawn as the claims of 10/733,767 do not encompass two or more compartments for the testing of blood or blood products.

This action is FINAL.

Inventorship

2. In view of the papers filed 6/8/2007, it has been found that this nonprovisional application, as filed, through error and without deceptive intent, improperly set forth the inventorship, and accordingly, this application has been corrected in compliance with 37 CFR 1.48(a). The inventorship of this application has been changed by addition of Yiu-Lian Fong.

The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of Office records to reflect the inventorship as corrected.

Maintained Rejections

It is noted that the 102 in View of Muir has been modified to include claims 32-34.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 10-14, 17, and 32-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Muir et al, (WO 1999/26724).

With regards to claim 1, Muir teaches a bodily fluid sample collection unit attached to at least one reaction chamber (see page 3 lines 17-23 and figure 5) for the screening of pathogens. The compartment for testing and the first section for holding sample to be tested are interpreted as being the same; as such the claimed device requires a container and compartment. The sample entry of figure 5 is interpreted as the container and compartments A to H are interpreted as the compartments or sections.

With regards to claim 2, Muir teaches a device that has a sample entry contiguous with compartments (see figure 5). The sample entry is interpreted as the container and compartments A to H are interpreted as the compartments or sections. The sample entry of figure 5 is contiguous with compartment A.

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With regards to claim 3, Muir teaches the receptacle allows the reaction chamber to be completely sequestered (see page 10, line 10). Completely sequestered is interpreted as sealed, or separated for testing of instant application.

With regards to claim 4, Muir teaches compartments within the reaction chamber, that is separated by a barrier (see page 11 lines 16-18). Barrier is interpreted as a seal.

With regards to claim 5, Muir teaches the compartment barriers break under appropriate pressure (see page 12, lines 5-8). A seal breaking under appropriate pressure is interpreted as pressure sensitive seal.

With regards to claim 10, Muir teaches in figure 5, at least a second (compartment A) and third sealed section (compartment B) that are contacted by breakable seals. The seals between the sample entry and compartment A are separate from the seal between compartment A and compartment B. Thus the sample entry is arranged in sealed contact with compartment A. Compartment A is arranged in seal contact with compartment B.

With regards to claim 11, Muir teaches a sample is placed in compartment A, the seal between compartment A and B is ruptured by pressure (see page 58 lines 15-19). Muir teaches the cells are lysed in compartment B (see page 58 lines 22-24). Muir further teaches that pressure is applied to the seal between compartments B and C; the seal is ruptured (see page 59 lines 4-5).

With regards to claim 12, Muir teaches compartment B contains lysis reagents (see page 58, lines 22-24). Muir further teaches lysing reagents include alkali,

detergent, hypotonic solutions and combinations (see page 14 lines 8-9). The buffer is thus interpreted as lysing reagents.

With regards to claim 13, Muir teaches compartment C contains labeled nucleic acid probes complementary those of interest (see page 59 line 7-9) for testing transferred contents from compartments A and B. The nucleic acids of Muir are interpreted as being test reagents.

The reagents of claims 14 and 17 are interpreted as being components of the biological storage device.

With regards to claim 14, Muir teaches the use of PCR amplification to detect a polynucleotide sequence (see page 16, lines 22-23). The polymerase used in PCR is a catalytic enzyme and the primers used for PCR are interpreted as a reporter sequence.

With regards to claim 17, Muir teaches PCR in which a primer is covalently attached to a solid support (see page 18 Lines 19-20). The primer covalently attached to a solid support is an immobilized reporter sequence.

With regards to claim 32, Muir teaches a bodily fluid sample collection unit attached to at least one reaction chamber (see page 3 lines 17-23) for the screening of pathogens.

With regards to claim 33 and 34, Muir teaches bodily fluids include blood (see page 3 line 8), which comprise platelets. Muir further teaches assays to determine bacterial growth in platelets (page 75, lines 25-26) using probes to 16S rRNA (see page 76 lines 7-8).

Response to Arguments

The papers filed May 8, 2007 asserts on page 7 that Muir et al does not disclose each and every limitation of the claimed invention as it has been amended to recite, "wherein each of the compartments is arranged as a protruding element from the container." The response further asserts compartments A-H are aligned linearly with one another. These arguments have been thoroughly reviewed but are not persuasive because the compartments do protrude from the sample entry, as compartments A to H each protrude from the sample entry in a linear fashion. Further the amendment to claim 2 draws the claims to having a "section" that is contiguous with the container. As the specification nor the claims clearly define a section this can broadly be interpreted as a sharing an exterior wall or separation or piston. Thus the outside wall of the multicomponent chamber and/or the piston are broadly interpreted as a first section.

The response of May 8, 2007 further asserts that the linear alignment does not facilitate the testing and storage of blood for different amounts of time. This argument has been fully considered but is not found persuasive because it is the intended use and not a limitation of the claim and is not a limitation of the claim. Further, the MPEP in 2113 teaches, "While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function." The claims do not require that the device allows for the testing of blood stored for different amounts of time. Further, even if the claims did recite this limitation, the limitation would constitute an intended use of the device. Such a limitation would not further limit the structure of the device, and thereby would not distinguish the claimed device over that of Muir.

The 102 rejections are thus maintained.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muir et al, (WO 1999/26724) in view of Shih, et al (US Patent 5589332).

Claim 14 is rejected as directed to ribozymes as catalytic molecule.

The reagents of claims 14-17 are interpreted as being components of the biological storage device.

Muir teaches devices that have reaction chambers filled by flow from the storage container (see page 5 lines 21-25, figures 2 and 3) for the testing of bacteria, virus, fungi or parasitic contamination in biological samples (see page 2, lines 19-21). Muir teaches the receptacle which allows the reaction chamber to be completely sequestered. Muir teaches compartments within the reaction chamber, that are separated by a barrier (see page 11 lines 16-18). Muir teaches the compartment barriers break under appropriate pressure (see page 12, lines 5-8. Muir teaches in figures 11 and 12, at least a second and third sealed section that are contacted by breakable seals. These contacts are different from the contact and seal of the first sealed section. Muir teaches sample is place in compartment A, the seal between compartment A and B is ruptured by pressure (see page 58 lines 15-19). Muir teaches

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the cells are lysed in compartment B (see page 58 lines 22-24). Muir further teaches that pressure is applied to the seal between compartments B and C; the seal is ruptured (see page 59 lines 4-5). Muir teaches compartment B contains lysis reagents (see page 58, lines 22-24). Muir further teaches lysing reagents include alkali, detergent, hypotonic solutions and combinations (see page 14 lines 8-9). Muir teaches compartment C contains labeled nucleic acid probes complementary those of interest (see page 59 line 7-9) for testing transferred contents from compartments A and B. Muir teaches the use of PCR amplification to detect a polynucleotide sequence (see page 16, lines 22-23). Muir does not teach a catalytic molecule is an inactivated ribozyme (claim 15) and reporter sequence is RNA (Claim 16). Muir further does not teach the immobilization of a ribozyme or RNA reporter on a solid support (claim 17).

However, Shih teaches an activated ribozyme complex which includes the ribozyme, co-target molecule (RNA) and disease target molecule (see column 5, lines 1-3) for the diagnostic detection of clinical samples (see column 5 line 65) pathogenic agents, which include viruses, bacteria, or fungi (see column 8 lines 53-54). Shih further teaches use of ribozymes in diagnostics provide high specificity and simple, sensitive and quantitative assays (see column 4 lines 44-46). As Shih teaches an activated ribozyme requires a ribozyme, a co-targeting molecule, and target molecule, a complex of a ribozyme and targeting molecule would be inactive (claim 15). Shih further teaches the co-target is a RNA molecule that can be anchored to a solid support (see column 5 lines 11-14) (claims 16 and 17) to allow quantification (see column 3, lines 33-34).

Therefore it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to include the diagnostic ribozymes and RNA co-targets of Shih in the blood storage and testing device of Muir because both Muir and Shih teach testing of blood for pathogens. Shih further teaches ribozymes provide a highly specific simple quantifiable method for detecting virus, fungi, or bacteria in clinical samples. One of ordinary skill in the art would be motivated to improve the blood-testing device of Muir with the diagnostic ribozymes and co-targeting RNA of Shih because the diagnostic ribozymes and co-targets allow a simple sensitive and quantifiable assay of pathogens in clinical samples. The ordinary artisan at the time the invention was made would be further motivated to combine the blood testing device of Muir with the covalently attached co-target of Shih, because it would improve quantitation of clinical sample pathogen assays. The ordinary artisan would be motivated to covalently attach the co-target, because Shih teaches it would allow quantitation.

Response to Arguments

The response of May 8, 2007, asserts on page that Muir in view of Chen does not teach every limitation of the claims as Muir does not teach or suggest that "each of the compartments is arranged as a protruding element from the container." This argument has been thoroughly reviewed, but is not found persuasive because Muir does teach in Figure 5 a biological storage device in which compartments A-H protrude from the sample entry container, as described above. As the teachings of Muir teach

every limitation of the claims, the rejection based on Muir in view of Chen is also maintained.

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muir et al, (WO 1999/26724) and Shih, et al (US Patent 5589332) as applied to claims 14-17 above, and further in view of Chen et al (US Patent 6251599).

The teachings of Muir and Shih are set forth above.

However, Chen et al teach lyophilized nucleic acid increases the concentration of nucleic acids (see column 24 lines 23-25). Chen teaches nucleic acids include RNA (see column 4 line 39). Lyophilization of RNA co-target or the inactive ribozyme increases the concentration of the lyophilized molecule.

Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to lyophilize the co-target RNA and inactive ribozymes of the Muir and Shih biological sample storage and reaction device to concentrate the lyophilized molecules as taught by Chen. The ordinary artisan would be motivated because Chen teaches lyophilization concentrates the ribozyme and co-target RNA.

Response to Arguments

The response of May 8, 2007, asserts on page that Muir and Chen in view of Shih does not teach every limitation of the claims as Muir does not teach or suggest that "each of the compartments is arranged as a protruding element from the container." This argument has been thoroughly reviewed, but is not found persuasive because Muir does teach in Figure 5 a biological storage device in which compartments A-H protrude

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from the sample entry container, as described above. As the teachings of Muir teach every limitation of the claims, the rejection based on Muir and Chen in view of Shih is also maintained.

8. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muir et al, (WO 1999/26724) in view of Chen et al (US Patent 6251599)

The blood storage and analysis device as taught Muir has a storage compartment and reaction chamber, with multiple sections separated by breakable seals. The Muir biological storage and testing device has a DNA and primer test sequences. The device of Muir does not have lyophilized catalytic or reporter molecule.

However, Chen et al teaches lyophilization of a nucleic acid increases the concentration of nucleic acids (see column 24 lines 23-25). Chen teaches nucleic acids include DNA (see column 4 line 39). Lyophilization of DNA primers increases the concentration of the DNA primers.

Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to concentrate the DNA primers of Muir's biological storage and testing device by lyophilization as taught by Chen. The ordinary artisan would be motivated because Chen teaches lyophilization increases the concentration of the DNA primers.

Response to Arguments

The response of May 8, 2007, asserts on page that Muir in view of Shih does not teach every limitation of the claims as Muir does not teach or suggest that " each of the

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compartments is arranged as a protruding element from the container.” This argument has been thoroughly reviewed, but is not found persuasive because Muir does teach in Figure 5 a biological storage device in which compartments A-H protrude from the sample entry container, as described above. As the teachings of Muir teach every limitation of the claims, the rejection based on Muir in view of Shih is also maintained.

Summary

No claims are allowed over prior art cited.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

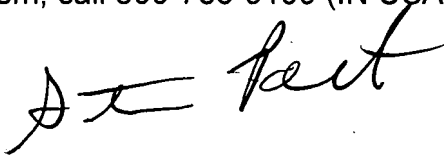
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven C. Pohnert whose telephone number is 571-272-3803. The examiner can normally be reached on Monday-Friday 7:00-3:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on 571-272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'St Pohnert', is written over the printed name.

Steven Pohnert

/Carla Myers/
Primary Examiner, Art Unit 1634